No. 719,822. PATENTED FEB. 3, 1903.

S. S. & A. LEWIS.

MOTOR VEHICLE.

APPLICATION FILED NOV. 23, 1900.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

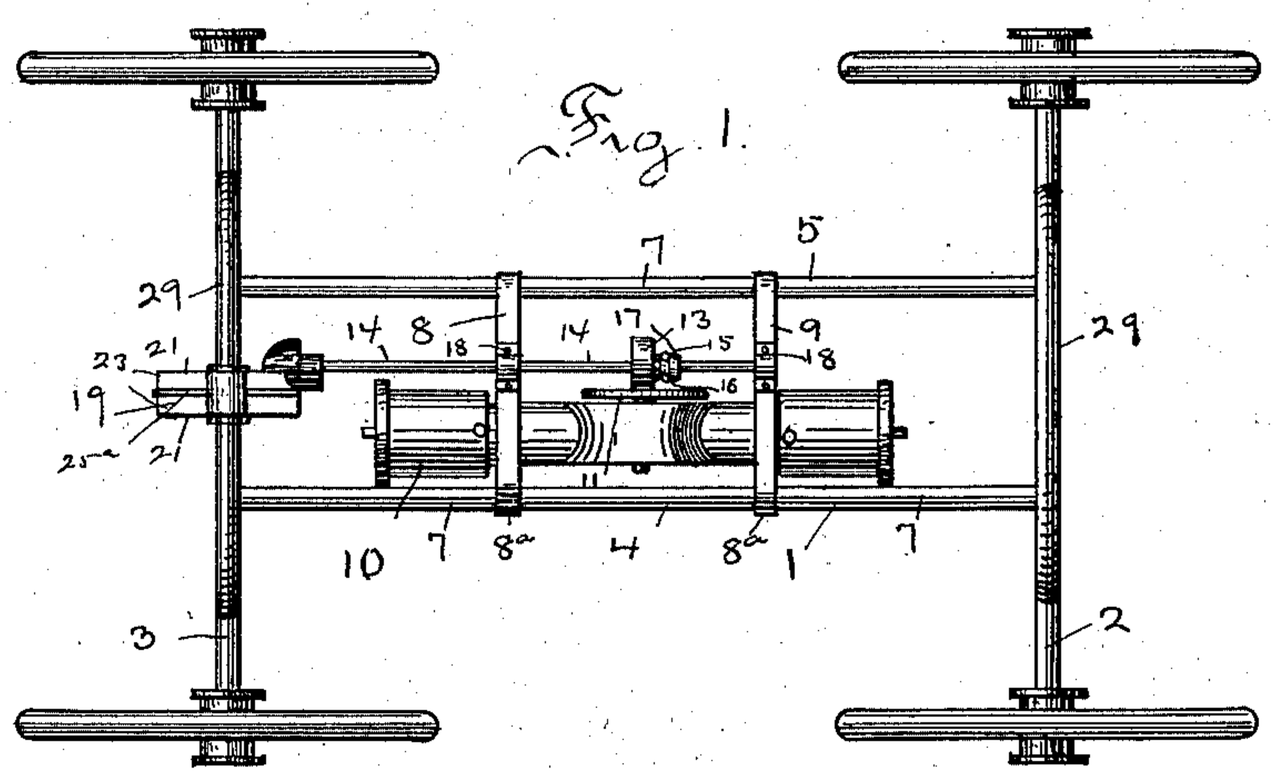
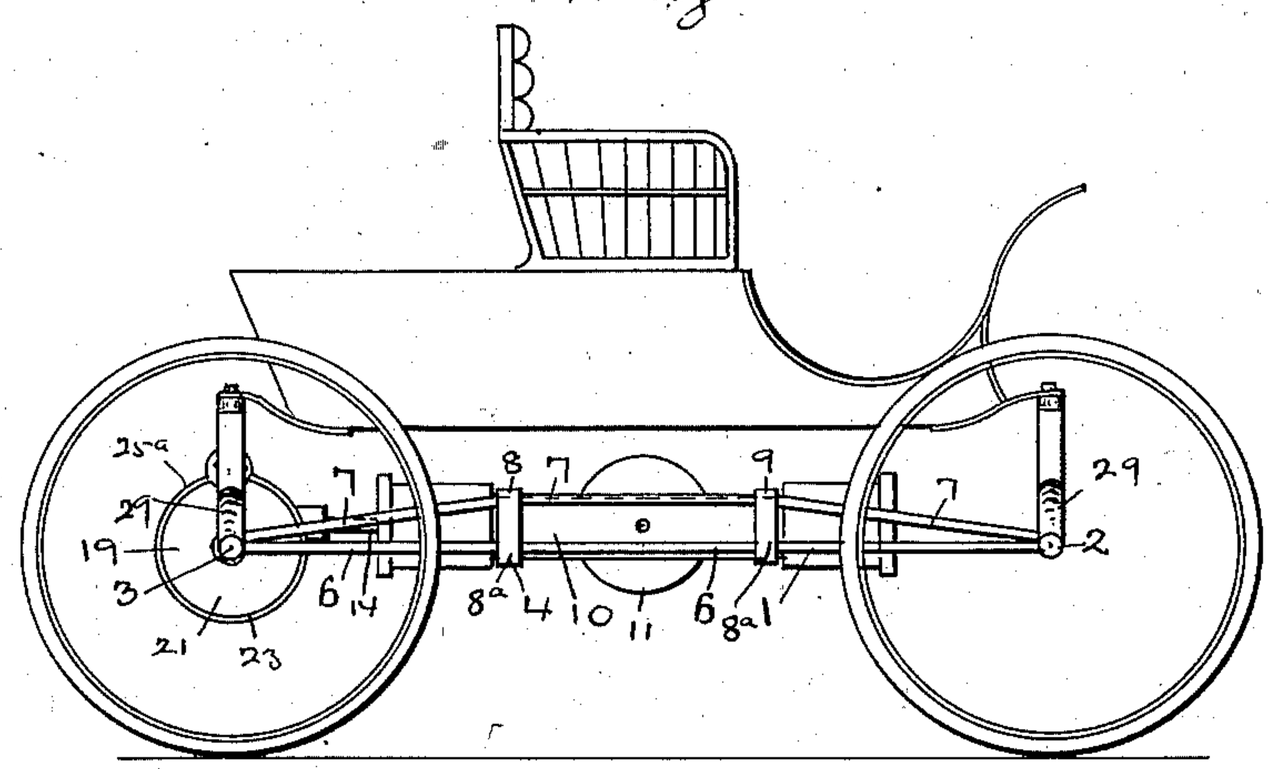


Fig. 2.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

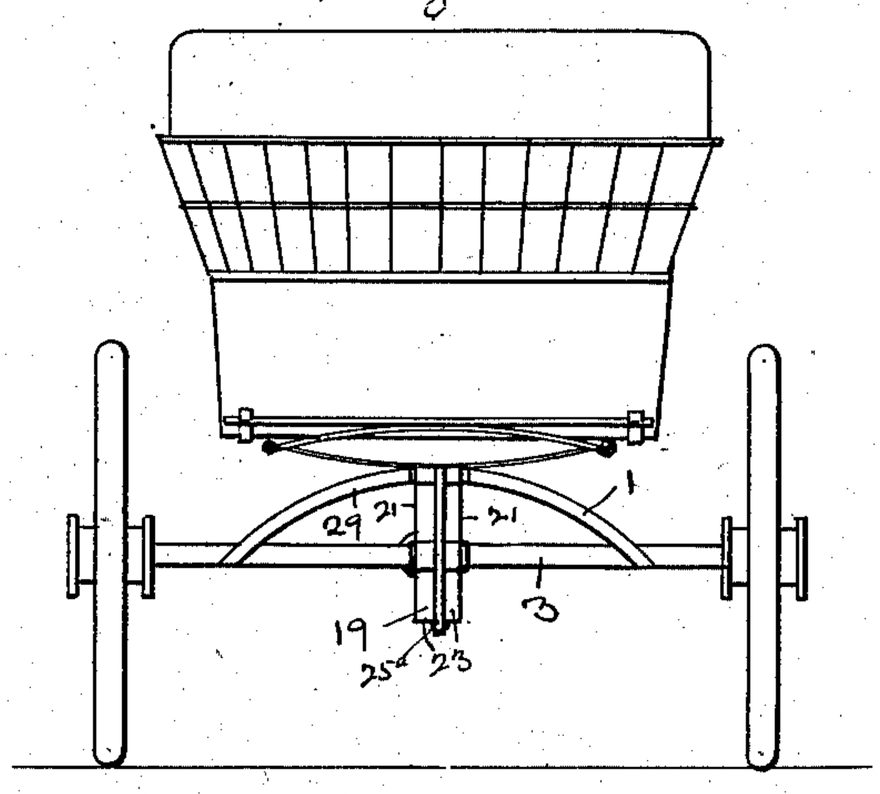


Fig. 5.

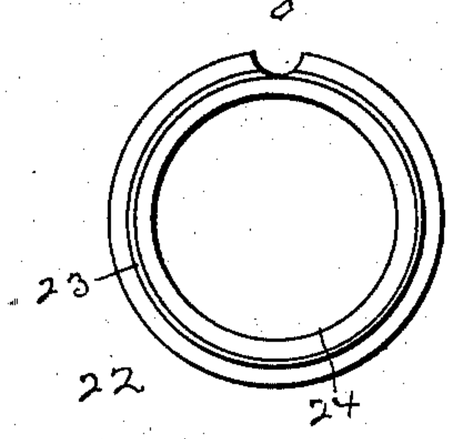


Fig. 4.

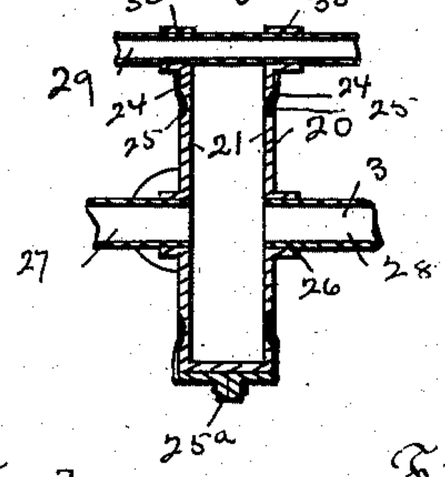


Fig. 6.

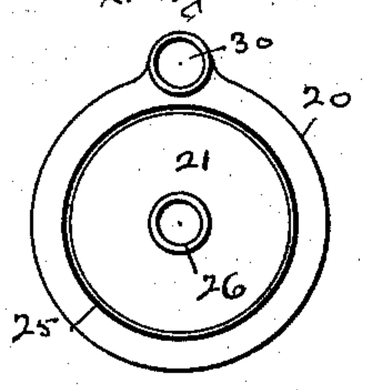


Fig. 7.

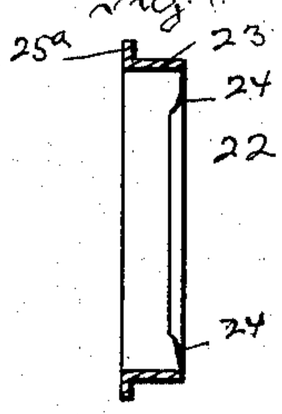
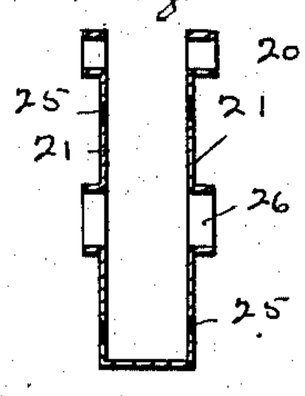


Fig. 8.



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UNITED STATES PATENT OFFICE.

SHIRLEY S. LEWIS AND ALBERT LEWIS, OF SYRACUSE, NEW YORK.

MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 719,822, dated February 3, 1903.

Application filed November 23, 1900. Serial No. 37,429. (No model.)

To all whom it may concern:

Be it known that we, SHIRLEY S. LEWIS and ALBERT LEWIS, citizens of the United States, and residents of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Motor-Vehicles, of which the following is a specification.

Our invention relates generally to motor-vehicles, and more particularly to the running and driving gear of same, as also to the means for supporting the motor and other means used in the operation of the vehicle.

The object of the invention is to produce a compact, strong, and highly-efficient structure for carrying the means utilized in the production and transmission of the motive power and supporting also the body of the carriage.

Other objects will appear farther on in the specification; and to accomplish these objects the invention consists of the mechanisms and the combination of coöperative elements hereinafter described, and set forth in the claims.

In the drawings we have embodied the invention in what we consider the best means for carrying out the objects; but it is of course obvious that changes may be made within the scope of the claims without destroying the spirit of the invention.

In the said drawings, Figure 1 is a plan view of a motor-vehicle with the body of the carriage removed, embodying our invention. Fig. 2 is a side elevation of same with the body in position. Fig. 3 is a rear end view of Fig. 2. Figs. 4, 5, 6, 7, and 8 are detail views of the gear-casing.

Similar numerals of reference indicate corresponding parts in the different views.

We will describe a motor-vehicle embodying our invention and afterward point out the novel features in the claims.

The body of the carriage and the generating and transmission parts are all supported on a frame structure or truss 1, constructed in a peculiar manner, as will be hereinafter set forth. The front and rear axles 2 and 3 are connected together by means of the two double reaches 4 and 5, comprising a lower horizontal bar 6 and the upper slanting bar 7. These double reaches are connected by means of the transverse cross-pieces 8 and 9, connecting also the upper and lower bars 6 and 7 by means of the portions 8^a, while the transverse trusses 29, curved in form, on the front and rear axles carry, together with the latter, the load of the vehicle. This forms a very strong and tensile structure capable of withstanding a great strain. The bars of which it is composed may be made of metal tubing, or any other material suitable for the purpose may be used. On one side upon the transverse bars 8 and 9 rests the motor 10, in this instance a gasolene-motor, but which may be either an electric, compressed-air, or any other kind of motor, while upon the other side is supported the storage-tanks or batteries or boilers, &c., which may be necessary in the operation of the vehicle, care being taken that the weight is evenly distributed.

The casing for the compensating gear forms an intimate part of the truss structure and is constructed in the following manner: This casing 19 is formed by means of an inner casing 20, which forms, by means of its two circular side walls 21, the two flat sides of the casing. Upon this inner casing are slipped the two parts 22, which by means of their peripheral side wall 23 forms the peripheral wall of the casing. The portions 22 are adapted to fit over the inner casing 20 and are fastened to the same by means of the ledges 24, fitting into the corresponding grooves 25, while the two portions 22 are fastened together by means of nuts or bolts passing through the contiguous flanges 25^a of same. The inner casing 20 is further provided with the openings 26 for the reception of the rear axle, the latter being made in two parts 27 and 28, so that the two wheels may move independently of each other. The casing as a whole is suspended on the transverse truss 29 on the rear axle and is to that end provided with the shaft-holes 30, which are formed in the inner casing, through which passes the said truss 29.

By this construction the parts are so formed that the buyer of the vehicle may himself decide upon the style and character of body and springs, which then may be fitted to the running-gear.

Having thus described our invention, what we claim is—

1. In a motor-vehicle, the combination with the front and rear axles and a transverse and

convex bar on each of said axles curving upward of two longitudinally-extending reaches, comprising a lower and an upper bar suitably secured together, and transverse cross-pieces connecting the two upper bars and the two lower bars of the reaches with each other, substantially as described.

2. In a motor-vehicle, the combination with the front and rear axles the latter made in two pieces and a transverse and convex bar on each of said axles curving upward, of the gear-casing adapted to be suspended from the transverse and convex bar of the rear axle and to receive the two pieces of the latter, and two longitudinally-extending reaches comprising an upper and a lower bar connecting the front and the rear axle with each other and transverse cross-pieces connecting the two reaches with each other located intermediate the front and rear axle, substantially as described.

3. In a motor-vehicle, the combination with the rear axle, made in two pieces and a convex bar of a gear-casing comprising an inner portion forming the circular side walls, and having a shaft-hole for the reception of the rear axle, and an upper shaft-hole adapted to the reception of the convex bar, and an outer portion made in two pieces secured together by contiguous flanges, forming the peripheral wall of the casing, substantially as described.

4. In a motor-vehicle, the combination in a gear-casing of an inner portion forming the circular side walls provided with a circular groove on each side and an outer portion made in two parts secured together by means of contiguous flanges forming the peripheral wall of the casing, and provided with ledges adapted to fit into the circular grooves of the inner portion to secure the inner and outer portions to each other, substantially as described.

Signed at Syracuse, in the county of Onondaga and State of New York, this 29th day of October, A. D. 1900.

SHIRLEY S. LEWIS.
ALBERT LEWIS.

Witnesses:
JOSEPH MICHELS,
JAMES F. CARBERRY.